7-20-2017

Educational Policies Committee Program Proposal, College of Agriculture and Applied Sciences, July 20, 2017 - Bachelor of Science Degree in Technology Systems

Utah State University

Utah System of Higher Education
New Academic Program Proposal
Cover/Signature Page - Full Template

Institution Submitting Request:	Utah State University
Proposed Program Title:	Bachelor of Science Degree in Technology Systems
Sponsoring School, College, or Division:	College of Agriculture and Applied Sciences
Sponsoring Academic Department(s) or Unit(s):	School of Applied Sciences, Technology and Education
Classification of Instructional Program Code[1] :	15.1501
Min/Max Credit Hours Required of Full Program:	120 / 120
Proposed Beginning Term[2]:	Fall 2017
Institutional Board of Trustees' Approval Date:	03/03/2017

Program Type (check all that apply):

☐ (AAS)	Associate of Applied Science Degree
☐ (AA)	Associate of Arts Degree
☐ (AS)	Associate of Science Degree
☐	Specialized Associate Degree (specify award type[3]:)
☐	Other (specify award type[3]:)
☐ (BA)	Bachelor of Arts Degree
☒ (BS)	Bachelor of Science Degree
☐	Specialized Bachelor Degree (specify award type[3]:)
☐	Other (specify award type[3]:)
☐ (MA)	Master of Arts Degree
☐ (MS)	Master of Science Degree
☐	Specialized Master Degree (specify award type[3]:)
☐	Other (specify award type[3]:)
☐	Doctoral Degree (specify award type[3]:)
☐	K-12 School Personnel Program
☐	Out of Service Area Delivery Program

Chief Academic Officer (or Designee) Signature:
I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Edward M. Reeve Date: April 19, 2017

☒ I understand that checking this box constitutes my legal signature.

[1] For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.
[2] "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.
[3] Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

Utah System of Higher Education
Program Description - Full Template

Section I: The Request

Utah State University requests approval to offer the following Baccalaureate degree(s): Bachelor of Science Degree in Technology Systems effective Fall 2017. This program was approved by the institutional Board of Trustees on .

Section II: Program Proposal

Program Description

Present a complete, formal program description.

The School of Applied Sciences, Technology, and Education (ASTE) at Utah State University (USU) is developing a Technology Systems degree to begin Fall 2017, if approved. This degree is a standalone degree, and it is also designed to "stack" onto the existing AAS degree in General Technology. The degree will have four emphasis areas: Information and Computer Technology; Technical Management; Robotics, Automation, and Controls; and Product Development. The program will be available through distance learning at all USU campuses.

Consistency with Institutional Mission

Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals. Institutional mission and roles may be found at higheredutah.org/policies/policyr312/ .

The mission of Utah State University is to be one of the nation's premier student-centered land-grant and space-grant universities by fostering the principle that academics come first, by cultivating diversity of thought and culture, and by serving the public through learning, discovery, and engagement.

The new Bachelor of Science degree in Technology Systems reflects the University mission and goals by:

- Offering a program that is current and directed to the needs of the students to further their education
- Providing learning, discovery, and engagement opportunities directly relating to the students' talents, skills and career objectives
- Encouraging interdisciplinary opportunities with course content focusing on technology, product development, management, business and entrepreneurship skills and applied technology experiences. Students will have opportunities to participate in industry-related internships
- Encouraging the formation of new partnerships with local and regional industries
- Serving as a catalyst for business and industry innovation
- Supporting the regional campuses with online courses for training and other special programs

Section III: Needs Assessment

Program Rationale

Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.

The B.S. degree in Technology Systems is a culminating effort to address stackable credentials to assist economic growth in the Bear River Region. This effort has been guided heavily by direct input from the Bear River Region Committee of the Utah State Board of Education's Career and Technical Education department. The input from the secondary career and technical education directors in the region, coupled with the input from the Bridgerland Applied Technology College, provides the underpinnings of this

degree. Regents Policy R473 "Standards for Granting Academic Credit for CTE Course Work Completed in Non-Credit Instructional Formats" was approved on February 4, 2011. From this mandate, Utah State University created the AAS in General Technology. Since the creation of the degree program, Utah State University has been working closely with industry in the region to support the AAS degree in General Technology and provide opportunities for development of their workforce, culminating in a B.S. degree. Through these efforts, advisors from regional industry partners have expressed a need for further education beyond the AAS. Students who have completed the AAS degree have indicated a desire to further their education without redundancy and remediation. This degree will service a pipeline of students interested in robotics; information and computer technology; product development; and technical management. This will increase the number of trained professionals for the workforce demands in Northern Utah, and throughout the state, by creating stackable credential training opportunities.

The proposed Bachelor of Science Degree in Technology Systems fills a need of the local industry for this type of graduate. For example, the Human Resources director at Autoliv indicated that the local automated manufacturing industry actively recruits students from Indiana State University and a few schools in California. They have had retention issues with workers from out of state and would like to be able to hire local graduates with the right degree. It will also provide an opportunity for individuals in industrial settings who have completed a one-year certificate and/or an AAS degree and are now seeking opportunities to promote their career advancement.

Labor Market Demand

Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer (jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do) and the Occupation Outlook Handbook (www.bls.gov/oco).

An advisory committee was created to explore the potential for this degree program consisting of Autoliv, Post Brands, Orbital ATK and Autonomous Solutions. These and additional employers have committed to offer tuition reimbursement for employees willing to obtain this BS degree, and it is known that students in the AAS General Technology degree program are utilizing this benefit from their employer. Their commitment comes from the demand for additional skilled workers rather than recruiting out of state students to come to Utah to work.

According to the Department of Workforce Services, the projected job growth for fields related to the four emphasis areas of this degree will increase for the next 10 years. For example, the annual average projected number of workers needed for the computer and information technology fields in the Bear River Region is 1,490 with an annual median wage of $52,737 and a 2.3% annual percent increase. Using the Utah Department of Workforce Services Occupational Projections 2014-2024 (http://jobs,utah.gov/wi/pubs/outlooks/state/index.html), the other emphases show strong positive growth within the State as well. For example, the annual growth rate of Mechanical Engineering Technicians - Robotics, Automation, and Control emphasis: 2.8% annual growth rate/$48,710 median annual wage; Industrial Production Managers - Technical Management emphasis: 2.1% annual growth rate /$89,840 median annual wage; and Graphic Designers - Product Design emphasis 2.9% annual growth rate/$$44,220 median annual wage. This information demonstrates the need for graduates from this type of degree within the region and State.

Student Demand

Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.

This degree offers a cohesive pathway, starting in high school to a BS degree, which allow students to take steps in their employment in these industries. For example, in the Northern Utah region, high school students attend an ATC and can obtain a 900 hour certificate before graduation. Also in Cache, Box Elder, and Rich counties, the school districts have partnered with BATC to provide STEM programs that have more than 120 students currently enrolled who would be prepared/qualified to enter this degree program once it becomes available. Upon completion of their ATC certificate, students can then become employed within the region and may receive tuition reimbursement as they move forward with the AAS degree then this BS degree.

The table below shows students that are currently advancing in the AAS General Technology degree program. As shown, there has been a steady increase in the number of students enrolled in the AAS degree program. This degree program offers students a way to further their education after completing training at the Bridgerland Applied Technical College.

AAS Degree Enrollment and Graduation Numbers:

Total Enrollments		Total Graduates	
2012-2013	3	2012-2013	3
2013-2014	7	2013-2014	4
2014-2015	15	2014-2015	5
2015-2016	19	2015-2016	7
2016-2017	27	2016-2017	-

This degree also provides an outlet for students that have started other technical degrees at USU and are looking for an alternative degree pathway that utilizes, and highlights, their technical experience and skills. For example, a student who is not matriculated into the junior and senior year design studios of the Outdoor Product Design and Development degree program can apply their credits into a degree in Technology System emphasizing Product Development.

Similar Programs

Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?

This program does not exist in USU's service region. Currently, the association that offers national accreditation, the Association of Technology, Management, and Applied Engineering (ATMAE), does not accredit any similar programs in the state. Utah Valley University has been identified as having a similar "stacking" degree for Technology Management. UVU also offers a BS degree in Mechatronics, a similar

degree to the proposed Robotics, Automation, and Controls emphasis area. The development focus within this planning effort has been in the Bear River Region to provide a stackable credential and serve the industry in this region.

Collaboration with and Impact on Other USHE Institutions

Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in higheredutah.org/policies/policyr315/ . Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.

This program will not conflict with other institutions since this program is not offered in the Northern Utah region. This program has the potential and capacity to build upon existing programs offered at USU-Eastern (Price and Blanding campuses), and through the Regional Campus network to extend this program primarily into rural areas of Utah that are within USU's service region.

External Review and Accreditation

Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.

An advisory board with industry leaders in Northern Utah from Autoliv, TCR Composites, Post Brands, and ATK have reviewed the degree plan proposal and support this program. Additional advisory members will be added as the need arises.

Nationally, the Association of Technology Management and Applied Engineering offers accreditation for programs similar to this proposal. This program has been designed to meet their standards and once the program is in place, accreditation will be investigated, with an initial projected review after five years. According to the ATMAE website, the average cost of initial accreditation visit fee is $5000.

Section IV: Program Details

Graduation Standards and Number of Credits

Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at higheredutah.org/policies/R401.

The proposed program aligns with the standards and number of credits of other programs granting the Bachelors of Science degree at USU. Upon graduation a student will have earned a minimum of 120 credits including general education, University Studies and major courses.

Admission Requirements

List admission requirements specific to the proposed program.

The admission requirements will be consistent with the existing USU undergraduate admission requirements.

Curriculum and Degree Map

Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.

Section V: Institution, Faculty, and Staff Support

Institutional Readiness

How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?

This degree program is designed to "stack" onto the Associates of Applied Science in General Technology that is already in place within ASTE. As such, the number of additional courses the students would be required to complete is significantly less than a traditional four-year degree. This degree program is a collaboration between multiple colleges and schools within the university. The majority of required courses are already established and offered. Only a few courses will need to be developed or restructured within ASTE to offer the Technology Systems degree. The program is designed to allow students to take courses distance/online via the established delivery systems at USU's Regional Campuses at Brigham City, Price, Blanding, and Moab: and will not affect other course offerings or delivery methods of undergraduate education.

Faculty

Describe faculty development activities that will support this program. Will existing faculty/instructions, including teaching/ graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.

The courses draw on strengths and expertise of the faculty in the School of Applied Sciences, Technology and Education along with collaboration from the Bridgerland Applied Technology College that provides technical content training for students within the AAS degee in General Technology. Additional courses offered in programs outside the department, (e.g., the Huntsman School of Business) will be applied to this degree with minimal student impact. Through restructuring and reallocation of teaching assignments, the faculty can accommodate the student demand of the proposed program while requiring only one additional faculty member. The position for the faculty member is being funded through the Strategic Workforce Initiative collaborative partnership with the Bridgerland Applied Technology College. Additional faculty will be considered as the enrollment in the program grows or industry partners sponsors such additions.

Staff

Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/ clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.

With little restructuring, current staff resources are sufficient for the needs of this new program. As the program grows or industry partners sponsor such additions, additional staff will be considered.

Student Advisement

Describe how students in the proposed program will be advised.

The School of Applied Sciences, Technology and Education has designated advisors throughout the regional campus system and within the College of Agriculture and Applied Sciences. The advisors for this program will be the same individuals who also advise students in the AAS General Technology program. If needed, student peer mentors will assist the advisors with the increased number of students and additional advising capacity will be added as student numbers warrant within ASTE.

Library and Information Resources

Describe library resources required to offer the proposed program if any. List new library resources to be acquired.

Additional resources will not be needed. USU's current undergraduate resources include all software needed for this degree program.

Projected Enrollment and Finance

Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.

Section VI: Program Evaluation

Program Assessment

Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.

The School of Applied Sciences, Technology and Education will conduct on-going assessment of the degree program and make improvements or adjustments as needed. The objectives selected for this program include skills and knowledge identified by industry leaders.

This program has four primary objectives. After completion of this degree program, students will be able to:

1. Demonstrate technical knowledge and ability in at least one of the following emphasis areas: Technical Management; Robotics, Automation, and Controls; Product Development; and Information and Computer Technology.
2. Develop computational skills specific to problems and critical issues that exist in one of the emphasis areas.
3. Demonstrate written, verbal and visual communication skills and problem solving skills.
4. Acquire training and develop skills necessary for a career or an advanced degree program.

Instructors will use student course evaluations as a formative step in evaluating the program. The program faculty will have the opportunity to interact and work with other faculty from across campus to seek feedback. The department will also conduct exit interviews/surveys of graduating students and use portfolios and senior projects to evaluate the technical, written, verbal, and communication skills of the students. The program will survey alumni at approximate five-year intervals to provide an opportunity for student reflection on the program outcomes and overall value. Industry partners will offer internships and provide feedback about the program through an advisory committee.

Student Standards of Performance

List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.

The student performance standards have been identified and developed through partnership with industry through an advisory committee. The standards will be evaluated and adapted as industry partners provide feedback.

Core Standards of Performance

- Assess safety concerns in an industrial environment
- Evaluate technology as it relates to society
- Demonstrate technical and professional communication skills
- Demonstrate effective leadership, teamwork, and communication skills
- Apply a design process to an industry related project
- Apply technical concepts related to their emphasis area through an industry related project
- Apply creative design processes and evaluate outcomes

Management and Technical Standards

- Analyze factors affecting human resource management issues, production planning, scheduling, and inventory control relative to business goals and professional development (technical management emphasis)
- Obtain industry certification(s)
    - at least three industrial robotic platforms (robotics, automation, and controls emphasis)
    - at least three ICT related systems/platforms (information and computer technology)
- Explain and apply the basic decision making, production, and creative processes involved in the conversion of materials to finished products (product development and robotics, automation, and controls emphases)
- Apply technical knowledge and skills related to computer hardware and software (information and computer technology emphasis)

Industry partnerships will be used to evaluate and provide feedback of students' learning and performance in an industrial setting. Completion of a senior design project will be evaluated using a common rubric to assess the student standards of performance. Artifacts demonstrating student performance will be included in a portfolio and collected throughout the courses in the program.

Appendix A: Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.

For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.

		Course Number	NEW Course	Course Title	Credit Hours
		General Education Courses (list specific courses if recommended for this program on Degree Map)			
				General Education Credit Hour Sub-Total	30
		Required Courses			
+	-	BUSN2200		Business Communications	3
+	-	BUSN2320		Small Business Management for CTE	3
+	-	TEE2300		Electronics Fundamentals (QI)	4
+	-	TEE3000	X	Hazard Recognition and Control	3
+	-	ASTE3440		Science, Technology and Modern Society (DSC)	3
+	-	ASTE3050		Technical and Professional Communication Principles (CI)	3
+	-	CMST2110		Interpersonal Communication (BHU/HR)	3
+	-	ASTE4250		Internship**	4
+	-	ASTE4900		Senior Project	3
+	-	ELEC1XXX		ATC 900 hr certificate or USU certificate of completion	30
+	-			**This course will be renamed & restructured upon program approval	
				Required Course Credit Hour Sub-Total	59
		Elective Courses			
+	-			Choose 4 of the following courses (16 credits):	
+	-	BUSN2010		Financial Accounting	4
+	-	BUSN2020		Managerial Accounting	4
+	-	BUSN2050		Business Law	4
+	-	BUSN2390		Organizational Behavior	3
+	-	BUSN2590		Business Ethics & Social Responsibility	2
+	-	BUSN2800		Computerized Accounting	2
+	-	BUSN2988		Special Problems (Enterpreneurial Thought)	3
+	-	CMST1020		Public Speaking (BHU)	3
+	-				
				Elective Credit Hour Sub-Total	16
				Core Curriculum Credit Hour Sub-Total	105

Can students complete this degree without emphases? Yes or X No

	Course Number	NEW Course	Course Title	Credit Hours
	Name of Emphasis:		Robotics, Automation, and Controls	
+ -	BCIS1000		Introduction to Computer Science	3
+ -	TEE2400		Industrial Networking**	3
+ -	TEE3380		Advance PLC**	3
+ -	TEE3390		HMI**	3
+ -	TEE3370	X	Industrial Robotics	3
+ -			**This course will be renamed & restructured upon program approval	
			Emphasis Credit Hour Sub-Total	15
			Total Number of Credits to Complete Program	120
	Remove this emphasis			

	Course Number	NEW Course	Course Title	Credit Hours
	Name of Emphasis:		Information and Computer Technology	
+ -	TEE3400		Computer Automation**	3
+ -	TEE3710		Advanced Hardware**	3
+ -	TEE3510		Advanced Server Administration**	3
+ -	TEE4710		Security and Digital Forensics**	3
+ -	TEE3050		Network Administration**	3
+ -			**This course will be renamed & restructured upon program approval	
			Emphasis Credit Hour Sub-Total	15
			Total Number of Credits to Complete Program	120
	Remove this emphasis			

	Course Number	NEW Course	Course Title	Credit Hours
	Name of Emphasis:		Product Development	
+ -	TEE2230		Advanced Materials and Processing Systems	3
+ -	TEE2020		Computer-Integrated Manufacturing Systems	3
+ -	FCSE3030		Textile Science (DSC/QI)	4
+ -	OPDD4420		Digital Design Technologies for Outdoor Products I	3
+ -	OPDD4430		Digital Design Technologies for Outdoor Products II	3
			Emphasis Credit Hour Sub-Total	16
			Total Number of Credits to Complete Program	121
	Remove this emphasis			

	Course Number	NEW Course	Course Title	Credit Hours
	Name of Emphasis:		Technical Management	
+ -	MGT3250		Introduction to Human Resource Management	3
+ -	MGT3510		New Venture Fundamentals	2
+ -	MGT3520		New Venture Management	2
+ -	MGT3540		New Venture Financing	2
+ -	MGT3700		Operations Management	2
+ -	MGT4720		Production Planning and Control	2
+ -			Internship or MGT elective	2
			Emphasis Credit Hour Sub-Total	15
			Total Number of Credits to Complete Program	120
	Remove this emphasis			

Program Curriculum Narrative

Describe any variable credits. You may also include additional curriculum information.

This program is designed to "stack" onto the AAS in General Technology available at USU; however, it can be completed in a traditional method using a current USU certificate of completion. Both the 900+ hour ATC certificate and the USU certificate of completion fulfill 30 technical credits within the degree program.

Degree Map

Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf (Item #3).

Please cut-and-paste the degree map or manually enter the degree map in the table below.

First Year Fall	Cr. Hr.	First Year Spring	Cr. Hr.
Working on 900 hr certificate or equivalent		Working on 900 hr certificate or equivalent	
Total		Total	
Second Year Fall	**Cr. Hr.**	**Second Year Spring**	**Cr. Hr.**
ENGL1010 Introduction to Writing	3	BUSN2320 Small Business Management/CTE	3
MATH1050	3	BUSN2200 Business Communication	3
Breadth Social Science Course	3	Emphasis Area Credit (for AAS)	3
Emphasis Credits (AAS)	3	Breadth Exploration (Gen Ed)	3
Breadth Creative Arts	3	ECN1500 Intro to Economic Institutions	3
Total	15	Total	15
Third Year Fall	**Cr. Hr.**	**Third Year Spring**	**Cr. Hr.**
ASTE3050 Technical & Professional Comm.	3	Breadth Humanties	3
Breadth Life Science	3	Breadth Physical Science	3
Emphasis Area Credit (AAS)	3	ENGL2010 Intermediate Writing	3
Emphasis Area Credit (AAS)	3	TEE2300 Electronics Fundamentals	3
Elective Credit (BS)	3	Emphasis Credits (BS)	3
Total	15	Total	15
Fourth Year Fall	**Cr. Hr.**	**Fourth Year Spring**	**Cr. Hr.**
TEE3400 Hazard Recognition and Control	3	ASTE4250 Internship	3
ASTE3440 Science & Tech of Mod Society	3	ASTE4900 Senior Project	3
CMST3250 Organizational Communication	3	Elective Credit (BS)	3
Emphasis Credits	3	Emphasis Credits	3
Emphasis Credits	3	Emphasis Credits	3
Total	15	Total	15

Appendix C: Current and New Faculty / Staff Information

Part I. Department Faculty / Staff

Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.

	# Tenured	# Tenure -Track	# Non -Tenure Track
Faculty: Full Time with Doctorate	11	5	1
Faculty: Part Time with Doctorate	1		
Faculty: Full Time with Masters	4	1	5
Faculty: Part Time with Masters			
Faculty: Full Time with Baccalaureate	4	3	10
Faculty: Part Time with Baccalaureate			
Teaching / Graduate Assistants			1
Staff: Full Time			11
Staff: Part Time			7

Part II. Proposed Program Faculty Profiles

List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).

	First Name	Last Name	Tenure (T) / Tenure Track (TT) / Other	Degree	Institution where Credential was Earned	Est. % of time faculty member will dedicate to proposed program.	If "Other," describe
Full Time Faculty							
	Tracy	Blake	Other	PhD	Arizona State University	50%	
	Curtis	Frazier	Other	M.S.	Utah State University	50%	
	Dennis	Garner	Other	M.S.	Brigham Young University	30%	
	Bruce	Miller	T	PhD	Iowa State University	10%	
	Elias	Perez	Other	MAE	Western Governors University	50%	
	Ed	Reeve	T	PhD	Ohio State University	10%	
	Trevor	Robinson	Other	PhD	Utah State University	100%	
	Gary	Stewardson	T	PhD	University of Maryland	10%	
	Steve	Williams	Other	M.S.	Utah State University	100%	
Part Time Faculty							

Part III: New Faculty / Staff Projections for Proposed Program

Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Doctorate					
Faculty: Part Time with Doctorate					
Faculty: Full Time with Masters		1		M.S. - Information Systems	100%
Faculty: Part Time with Masters					
Faculty: Full Time with Baccalaureate					
Faculty: Part Time with Baccalaureate					
Teaching / Graduate Assistants					
Staff: Full Time					
Staff: Part Time			1	B.S. - Advisor	25%

Appendix D: Projected Program Participation and Finance

Part I.

Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.

Three Year Projection: Program Participation and Department Budget						
	Year Preceding Implementation	New Program				
		Year 1	Year 2	Year 3	Year 4	Year 5
Student Data						
# of Majors in Department	953	963	973	988	1,003	1,023
# of Majors in Proposed Program(s)		10	20	35	50	70
# of Graduates from Department	154	164	174	189	204	224
# Graduates in New Program(s)		0	5	10	15	20
Department Financial Data						
	Department Budget					
	Year Preceding Implementation (Base Budget)	Year 1 Addition to Base Budget for New Program(s)	Year 2 Addition to Base Budget for New Program(s)	Year 3 Addition to Base Budget for New Program(s)		
Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."						
EXPENSES – nature of additional costs required for proposed program(s)						
List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.						
Personnel (Faculty & Staff Salary & Benefits)	$2,041,467	$90,000	$105,000	$105,000		
Operating Expenses (equipment, travel, resources)	$121,333	$5,000	$5,000	$5,000		
Other:						
TOTAL PROGRAM EXPENSES		$95,000	$110,000	$110,000		
TOTAL EXPENSES	$2,162,800	$2,257,800	$2,272,800	$2,272,800		
FUNDING – source of funding to cover additional costs generated by proposed program(s)						
Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.						
Internal Reallocation		$95,000	$110,000	$110,000		
Appropriation						
Special Legislative Appropriation						
Grants and Contracts						
Special Fees						
Tuition						
Differential Tuition (requires Regents approval)						
PROPOSED PROGRAM FUNDING		$95,000	$110,000	$110,000		
TOTAL DEPARTMENT FUNDING	$0	$95,000	$110,000	$110,000		
Difference						
Funding - Expense	($2,162,800)	($2,162,800)	($2,162,800)	($2,162,800)		

Part II: Expense explanation

Expense Narrative

Describe expenses associated with the proposed program.

One new faculty member will be added to the technology faculty with expertise linked to information technology. Anticipate the position at the Brigham City regional campus. Additional advising capacity will be needed beginning in Year 2 as ASTE advisors are nearing full capacity currently. Also anticipate an incremental operating cost associated with a new program, faculty and staff additions.

Part III: Describe funding sources

Revenue Narrative 1

Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.

ASTE has no additional revenue streams that have been committed to this program. The primary revenue that can be directed towards this program will come through funding generated internally based upon the SCH return. The faculty member has been funded at the Brigham City campus to focus upon Information Technology. The program/content focus of this individual will support this degree program as well.

Revenue Narrative 2

Describe new funding sources and plans to acquire the funds.

Autoliv

Bruce Miller
School of Applied Sciences, Technology and Education
Utah State University
Logan, UT 84322-2300

To Whom It May Concern,

This letter provides documentation of our support for the development of a Technology Systems Bachelor of Science degree at Utah State University. This degree provides a stackable credential pathway for students in the northern region of Utah to complete technical training at the Bridgerland Applied Technical College, an Associate of Applied Science degree in General Technology at Utah State University, and upon approval, a Bachelor of Science degree in Technology Systems at Utah State University. These educational opportunities provide a foundation for our industry workforce needs and economic growth in Northern Utah. There is a great need for a strong STEM skilled workforce to meet current jobs. Increasing the level of automation in our production facilities, and the technical competence of our employees, is key to being competitive in a global market and keeping jobs here in Utah. Such programs will help ensure we have the talent needed to be successful.

1. The Technology Systems Degree, with emphasis areas in Robotics, Automation and Controls; Information and Computer Technology; Technical Management; and Product Development requires strong academic skills such as, computer programming, mathematics and applied science and physics backgrounds to be competitive. This program provides the opportunity for students to have a coordinated program of learning from high school to the BATC, to Utah State University with skills needed to support the Northern Utah industry needs.
2. We would be willing to sit on Advisory boards to help focus the program towards the skills that we require to hire the students completing the program.
3. We are willing to encourage and support employees to pursue this degree opportunity to advance their career, and our industry.

We have a strong relationship with the educational system in our region, local high schools, BATC and USU, to assist with the development of jobs and opportunities for our local economy. The Technology Systems degree development effort provides a continuous approach to enhancing the human capital resource for industry in Northern Utah. We look forward to continued efforts to develop and support the Technology Systems degree program at Utah State University.

Autoliv ASP, Inc.
Brigham City Facility
250 American Way
Brigham City, Utah, USA 84302

December 13, 2016

Sincerely,

Michael Quayle
Manager, Human Resources
Autoliv, Brigham City, Facility

TCR COMPOSITES
219 North 530 West | Ogden, UT 84404 USA
phone: 801.622.3800 | fax: 801.622.3809 | email: tcresin@tcrcomposites.com

December 7, 2016

Mr. Bruce Miller
School of Applied Sciences, Technology and Education
Utah State University
Logan, UT 84322-2300

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Sincerely,

Craig W. Schiffman
Director, Marketing & Sales
TCR Composites, Inc